

# IC Director's Report: NIMHD

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**Advisory Committee to the Director  
National Institutes of Health  
Bethesda, Maryland**

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# NIMHD History

**Established as an Office  
under the NIH Director  
through HHS Secretary Louis  
W. Sullivan, M.D. in 1990**

**1990**

**2000**

**2010**

**Transitioned to a Center  
through legislation  
championed by  
Representative Louis  
Stokes (D-OH) in 2000**

**Established as an  
Institute in 2010**

- **NIMHD Science Visioning Initiative**
- **NIMHD Scientific Advancement Plan**
- **NIH-Wide Minority Health and Health Disparities Strategic Plan**



# NIMHD Mission

- **Improve minority health**
- **Reduce health disparities**
- **Promote health equity**
- **NIH-wide role to monitor, coordinate and guide research**
- **Opportunity to nurture and shape this scientific discipline**



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# NIMHD Priorities

- Define and promote the science of minority health and health disparities
- Reorganize scientific program by themes and promote innovation from scientists: more R01s
- Enhance COEs, Endowment and RCMIs
- Establish intramural research program
- Promote diversity in the workforce
- Collaborate with other ICs
- NIH-wide Strategic Plan



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# Minority Health Research

- **Minority health research focuses on health determinants that lead to specific outcomes within a minority group and in comparison to others**
- **Racial and ethnic minorities share a social disadvantage based on being subject to discrimination as a common theme**



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# Race and Ethnicity Classification

- **African American or Black**
- **Asian**
- **American Indian and Alaska Native**
- **Native Hawaiian and other Pacific Islander**
- **White**
- **More than one race**
- **Latino or Hispanic**



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# Life Expectancy in the U.S., 2014

	Men	Women
<b>Whites</b>	<b>76.5</b>	<b>81.1</b>
<b>Blacks</b>	<b>72.0</b>	<b>78.1</b>
<b>Latinos</b>	<b>79.2</b>	<b>84.0</b>
<b>Total in 2017</b>	<b>76.1</b>	<b>81.1</b>

NCHS, National Vital Statistics System, Mortality



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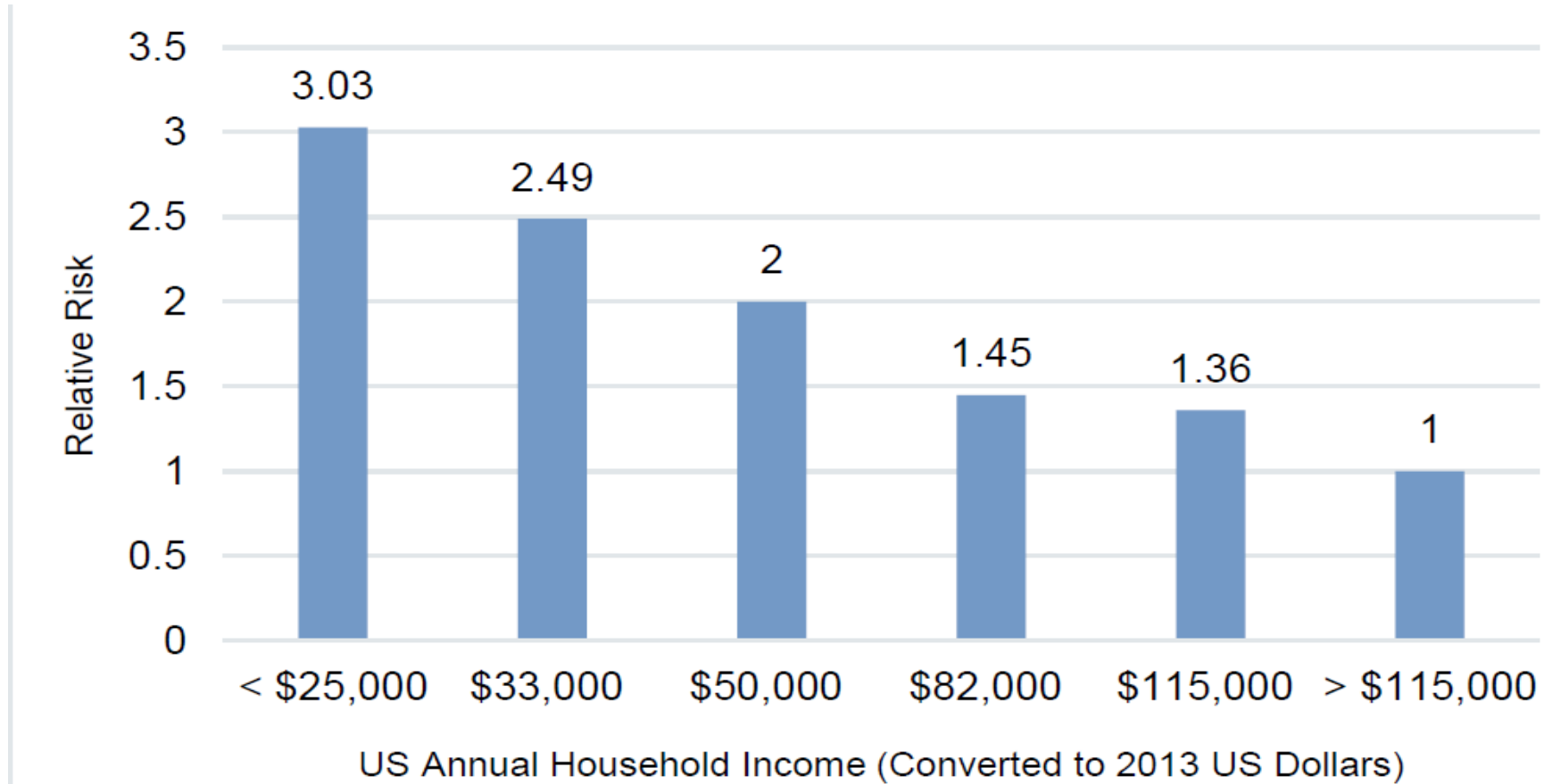
# Health Disparity Populations

- Health disparity populations include:
  - racial/ethnic minorities defined by OMB
  - less privileged socio-economic status
  - underserved rural residents, and/or
  - sexual and gender minorities
- Populations have poorer health outcomes often attributed in part to social disadvantage, being subject to discrimination, and underserved in the full spectrum of health care









# Relative Risk of All-Cause Mortality by US Annual Household Income Level in 2016



Wyatt R, et al., Achieving health equity: A guide for health care organizations. IHI White Paper. Institute for Healthcare Improvement, 2016



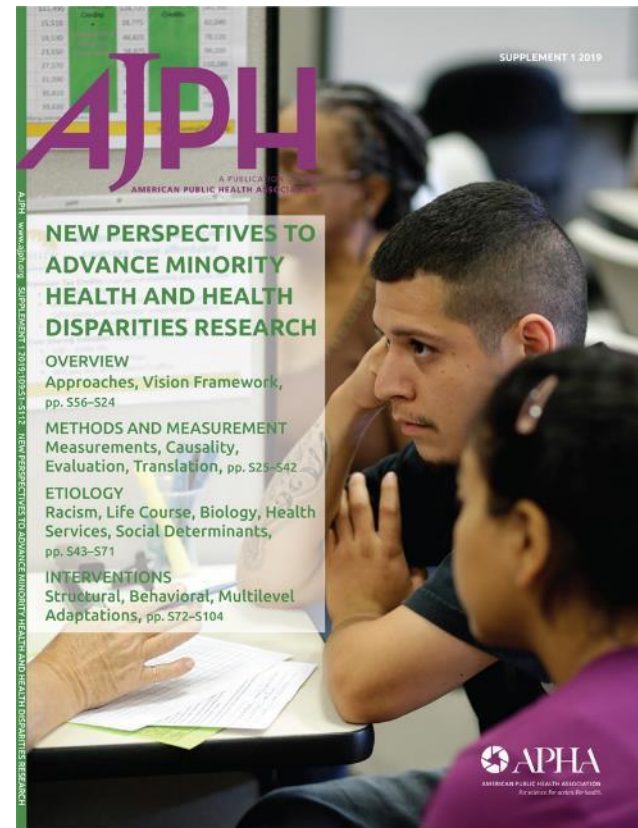
# National Institute on Minority Health and Health Disparities Research Framework

		Levels of Influence*			
		Individual	Interpersonal	Community	Societal
Domains of Influence (Over the Lifecourse)	Biological	Biological Vulnerability and Mechanisms	Caregiver–Child Interaction Family Microbiome	Community Illness Exposure Herd Immunity	Sanitation Immunization Pathogen Exposure
	Behavioral	Health Behaviors Coping Strategies	Family Functioning School/Work Functioning	Community Functioning	Policies and Laws
	Physical/Built Environment	Personal Environment	Household Environment School/Work Environment	Community Environment Community Resources	Societal Structure
	Sociocultural Environment	Sociodemographics Limited English Cultural Identity Response to Discrimination	Social Networks Family/Peer Norms Interpersonal Discrimination	Community Norms Local Structural Discrimination	Social Norms Societal Structural Discrimination
	Health Care System	Insurance Coverage Health Literacy Treatment Preferences	Patient–Clinician Relationship Medical Decision-Making	Availability of Services Safety Net Services	Quality of Care Health Care Policies
Health Outcomes		 Individual Health	 Family/ Organizational Health	 Community Health	 Population Health

# Special Issue of *AJPH*: *New Perspectives to Advance Minority Health and Health Disparities Research*

*Supplement 1, 2019, Vol 109, No S1*

- Editor's choice by NIMHD Director Dr. Eliseo J. Pérez-Stable and NIH Director Dr. Francis S. Collins
- Definitions for minority health, health disparities, and NIMHD Research Framework
- 30 research strategies in methods, measurement, etiology, and interventions
- Multi-year process with more than 100 authors, including
  - NIH program officers
  - External scientists



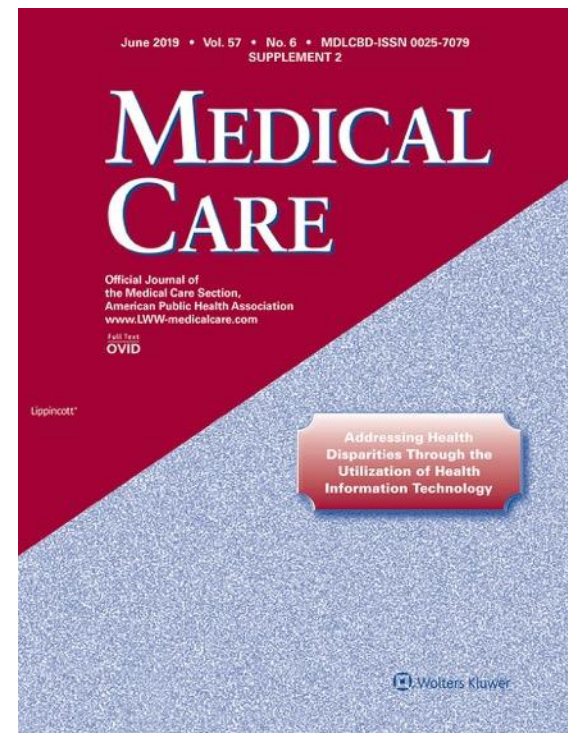
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# New Supplement: *Addressing Disparities Through the Utilization of Health Information Technology*

Supplement 2, 2019, Vol 57, No 6

- Features commentary and research on the potential application of Health IT in reducing disparities via access to care, higher quality of care and patient-clinician communication
- 12 original research papers, 5 editorials and perspective pieces



*"Health IT has tremendous potential for promoting health equity for disparity populations, and the clinical setting provides an optimal opportunity to better understand and address factors influencing health disparities in these patient groups."*

NIMHD Director Eliseo J. Pérez-Stable, M.D.



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# NIMHD Scientific Research Programs



Clinical and  
Health  
Services  
Research



Integrative  
Biological and  
Behavioral  
Sciences



Community  
Health and  
Population  
Sciences



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# NIMHD Research FOAs

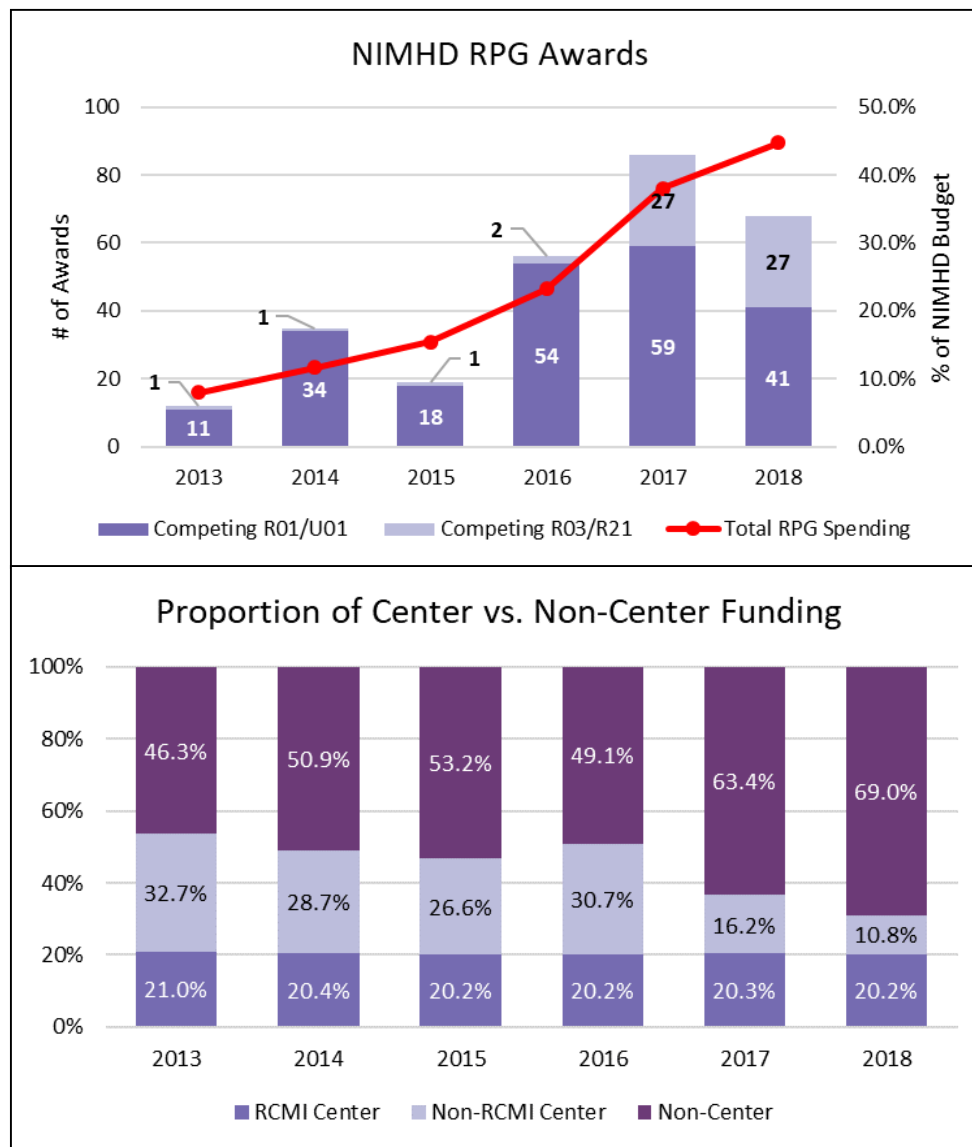
- **Immigrant Populations: etiology/interventions**
- **Disparities in Surgical Care and Outcomes**
- **Social Epigenomics**
- **Caribbean Initiative**
- **Sleep Disparities**
- **Liver Cancer and Chronic Liver Disease**
- **Opioid Use Disorders**
- **Simulation Modeling and Systems Science**
- **Lung Cancer Etiology, Screening and Care**
- **Health Information Technologies**



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# NIMHD FY13–18 Spending Trends



# RPG Application Numbers: New Challenge

<b>FY</b>	<b># of RPG applications</b>	<b>Source</b>	<b>% Increase over previous FY</b>
<b>2020</b>	<b>907</b>	<b>Estimate</b>	<b>17%</b>
<b>2019</b>	<b>776</b>	<b>Estimate</b>	<b>18%</b>
<b>2018</b>	<b>656</b>	<b>Actual</b>	<b>52%</b>
<b>2017</b>	<b>432</b>	<b>Actual</b>	<b>49%</b>
<b>2016</b>	<b>290</b>	<b>Actual</b>	<b>32%</b>
<b>2015</b>	<b>219</b>	<b>Actual</b>	<b>– 25%</b>
<b>2014</b>	<b>293</b>	<b>Actual</b>	<b>5%</b>
<b>2013</b>	<b>280</b>	<b>Actual</b>	<b>99%</b>
<b>2012</b>	<b>141</b>	<b>Actual</b>	<b>40%</b>
<b>2011</b>	<b>101</b>	<b>Actual</b>	



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# Community-Academic Partnership to Address Obesity Among Youth

- Cluster randomized trial in 10 middle schools in LA County, low SES, minorities
- Multi-level intervention: School-wide access to chilled water, healthy food options in cafeteria, encouragement to eat these, and peer-led education
- At 2 y, no overall change in BMI by school assignment
- Obese students at baseline in intervention schools had BMI reduction and 9 lbs. lower than expected
- Target structural change of access to chilled water

*Bogart LM, et al., [Pediatrics](#) (2016): 137(5): e20152493*



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# Black/Latino/White Disparities in Neonatal and Maternal Morbidity and Mortality in New York

- Severe maternal morbidity was higher for Blacks in medium-Black serving (19.0 vs. 15.6/1000 deliveries) and low-Black serving hospitals (16.9 vs. 12.3/1000)
- Health risks among very preterm birth infants accounted for 48.8% of Black and 29.5% of Latino mortality difference
- Quality of health care reflected in choice of hospital accounted for 39.9% of the Black and Latino infant mortality difference
- Mother's SES and health risk not significant

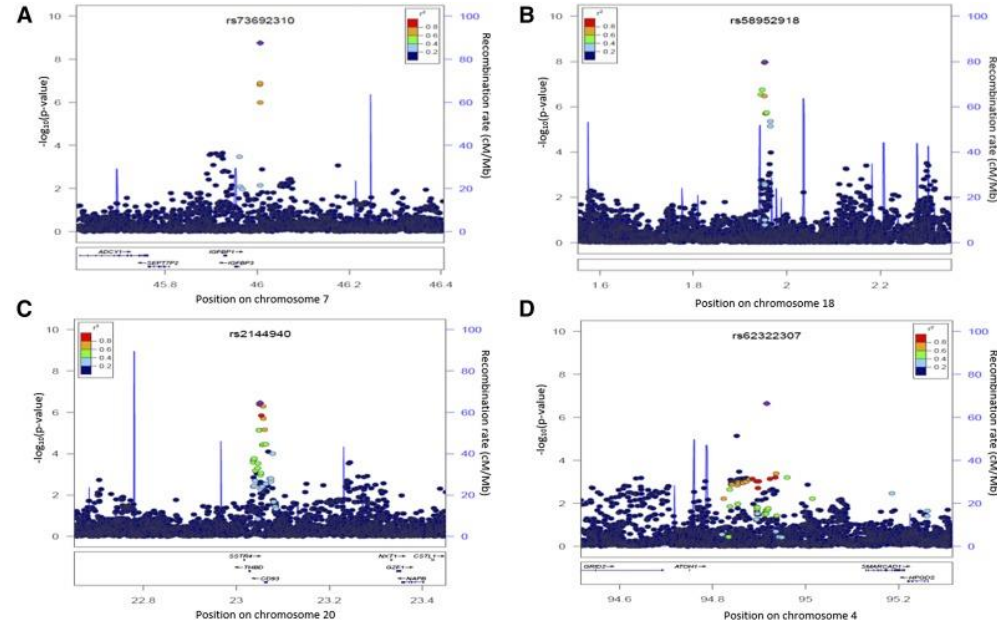
*Howell E, et al., [Am J Obstetrics and Gynecology](#), (2016), 214(1):122.e1-122.e7*

*Howell E, et al., [JAMA Pediatrics](#) (2018), 172(3):269-277*



# Novel Genetic Predictors of Venous Thromboembolism Risk in African Americans

- African Americans have 30-60% higher rates of VTE compared with other racial/ethnic groups
- GWAS with 578 AA participants and replication in independent cohort of 159 AA participants identified three SNPs on chromosome 20 that increase VTE risk 2.3-fold
- These VTE risk variants occur at higher frequency among populations of African descent (>20%) compared with other ethnic groups (<10%), and are associated with reduced expression of the thrombomodulin (THBD) gene, suggesting a mechanism regulating VTE susceptibility and elevated VTE risk in AA populations



Hernandez et al., *Blood*, 2016, 127(15):1923-9



# Future Research Directions

- **Multi-level interventions needed to address health disparities and improve minority health**
- **Identify disparities mechanisms: biological pathways, social determinants, individual behavior, environment, health system**
- **Assess specific communication strategies between patients and clinicians to maximize trust**
- **Implement structural change to modify individual and group behaviors**



# NIMHD Specialized Centers of Excellence Program

- ***Mandated by the Minority Health and Health Disparities Research and Education Act of 2000 (P. L. 106-525)***
- **Charge to advance the science of minority health and health disparities by conducting transdisciplinary, multi-level research and providing research opportunities and support for post-doctoral fellows and junior faculty**
- **Institutional awards up to \$950K (direct costs) per year**
- **Important changes in FY 2017: 1) emphasis on thematic focus and 2) addition of required Investigator Development Core; 3) One scientific core project; and 4) Continued community engagement**
- **Environmental Disparities COE in collaboration with NIEHS in 2019**

*Example: Researchers found that greater frequency of cognitive activity is associated with better neurocognitive function such as global cognition, memory, and perceptual speed in older persons with HIV, particularly older African Americans*



# NIMHD Research Centers in Minority Institutions

- **Established in 1985 in the National Center for Research Resources (NCRR)**
- **Program moved to NIMHD in 2012 when NCRR was dissolved with the Consolidated Appropriations Act of 2012**
- **FY 2017 revisions: 1) Institutional awards up to \$3M (direct costs) per year; 2) Addition of scientific research projects (R01 type); 3) Required Investigator Development Core and Community Engagement**
- **Basic, behavioral and clinical/population science**
- **Eligibility criteria by NIH funding, commitment to URM, and PhD or professional degree in health sciences**
- **Funded nine renewals or new RCMIIs focused on minority health and health disparities research**



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# NIMHD Research Endowment Program

Authorized by the Minority Health and Health Disparities Research and Education Act of 2000 (P. L. 106-525) and the Patient Protections and Affordable Care Act (P. L. 111-148) to institutions with NIMHD or HRSA COE

- Eligibility defined by having an institutional endowment at the 25<sup>th</sup> percentile or lower and commitment to training URM
- Strengthen the research and training capacity or infrastructure of educational institutions by providing grants that create permanent endowment funds
- Institutional awards up to \$2M per year X 5 years
- Retain the \$10M for minimum of 20 years after award ends
- Five current awardees; Example: San Diego State University researchers developing *tablet, mobile and web-based applications for bilingual participants in clinical research, for data collection and intervention delivery*



Photo Credit: San Diego State University





# NIMHD Division of Intramural Research

## Three Program Branches

- **Population and Community Health Sciences**
- **Social and Behavioral Sciences**
- **Molecular Epidemiology and Genomic Sciences**

**Network with DIR programs with MH/HD interests:  
NCI, NIA, NIDDK, NICHD, NIEHS, NHLBI, NHGRI**

- **Raise awareness of health disparities research at NIH**





# Division of Intramural Research Themes

## INTERVENTIONS

Late stage (T3 & T4) translation research in minority and other health disparities communities

- Delivered in real-world communities
- Reflects scientific evidence
- Fits target audience
- Considers complex SDOH
- Builds community capacity to reduce health disparities



## MECHANISMS

How environmental, social, psychological, economic, and genetic risk factors produce health disparities

- Life course effects of early childhood exposures
- Genetic susceptibility and modifiable environmental factors
- Effects of health policies on population subgroups
- Psychoneuroimmunology

# NIMHD Intramural Program: Investigators

**Anna M. Napoles, PhD, Scientific Director:**  
Translation of behavioral interventions for delivery  
in health disparities communities



**Kelvin Choi, PhD: Effects of tobacco  
control policies and marketing on low-  
income youth and adults**



**Sherine El-Toukhy, PhD: Harnessing digital  
health technologies to reduce health  
disparities**



**Faustine Williams, PhD: Multilevel  
interventions to reduce breast cancer  
disparities**

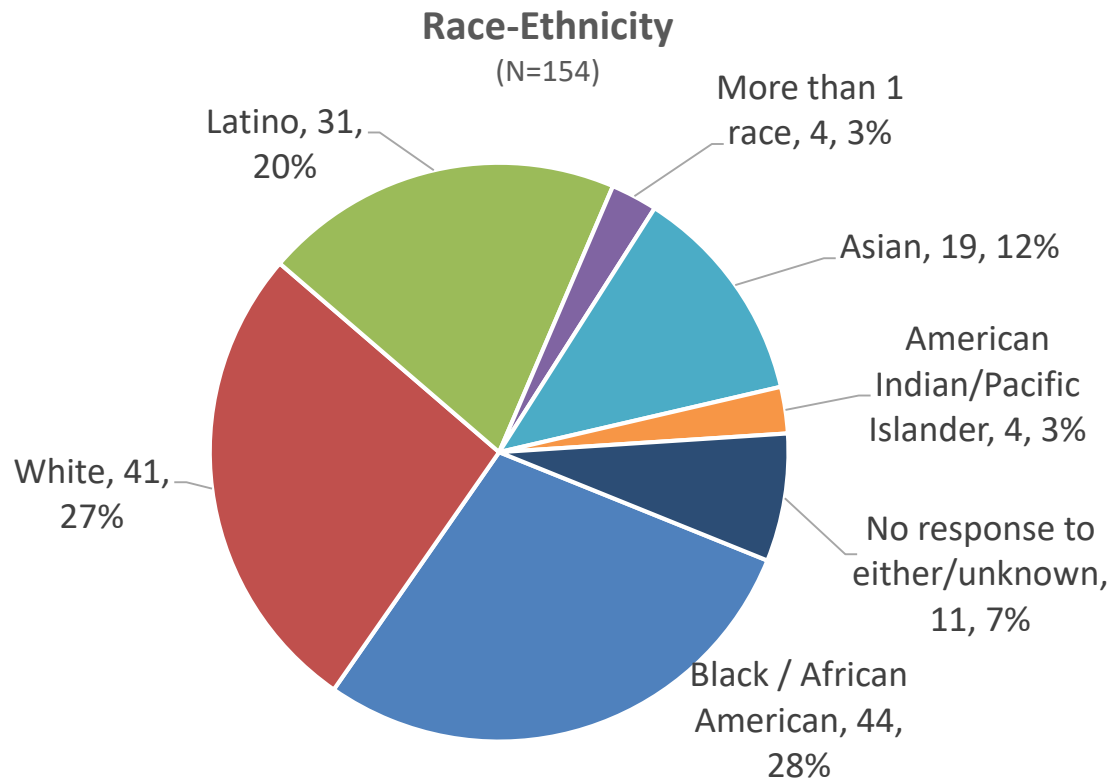


# NIMHD Health Disparities Research Institute

- **A week-long intensive and engaging training experience launched in 2016. Program includes:**
  - **Lectures by leading scientists in minority health and health disparities**
  - **Mock grant review session using real applications**
  - **Meetings with NIH scientific program staff engaged in minority health and health disparities research across the agency**
  - **Consultations on the development of research interests into a K or R01 application, as well as research strategies and methodologies for proposed studies**



# HDRI Demographics 2016–2018



Degrees	Percent
PhD, DSc, DrPH	66
MD	25
PhD + PA or RN	9

Gender	Percent
Female	81
Male	18
No answer	1



# NIMHD Training and Career Development Grant Program

Achieving diversity in the biomedical workforce is critical to the full realization of our national research goals.

- ❖ **Career Development Awards**
- ❖ **Individual Fellowship Grants**
- ❖ **Loan Repayment Programs**
- ❖ **Diversity and Re-entry Research Supplements**



Visit <https://www.nimhd.nih.gov/programs/extramural/training-career-dev/>



# **NIMHD as Vehicle to Diversify Workforce**

## *Proportion of 112 R01 PIs by Race/Ethnicity*

• <b>African Americans</b>	<b>11.6%</b>
• <b>Latinos</b>	<b>11.6%</b>
• <b>American Indians/AN</b>	<b>2.7%</b>
• <b>More than one Race</b>	<b>2.6%</b>
• <b>Native Hawaiians/OPI</b>	<b>0.1%</b>
• <b>Asians</b>	<b>16.1%</b>
• <b>Whites</b>	<b>60.0%</b>



# NIMHD/Association of American Medical Colleges Collaborative

***Addressing diversity in the biomedical research workforce through collaboration among scientific medical associations***

**Goal:** To develop a collaborative initiative designed to incorporate multiple associations and institutes within NIH to address minority physician workforce diversity.

## **Meeting Charge:**

- Meeting 1: Discuss challenges in recruiting and retaining a diverse research-clinician biomedical workforce
- Meeting 2: Review best practices, innovative ideas and suggestions for opportunities to address the lack of diversity within the biomedical workforce
- Meeting 3: Develop an action plan to move forward



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# NIMHD/NIH Collaborative Programs

- Centers in collaboration with NIEHS and NCI
- Jackson Heart Study: *NHLBI cohort*
- HCHS/Study of Latinos: *NHLBI cohort*
- ABCD Cohort: *led by NIDA and NIAAA*
- ECHO Program: *OD program*
- AD and related dementias supplements: *NIA*
- APOLLO Network: *NIDDK*
- CSER and Precision Medicine Center: *NHGRI*
- All of Us, Opioid Use Disorder/HEAL



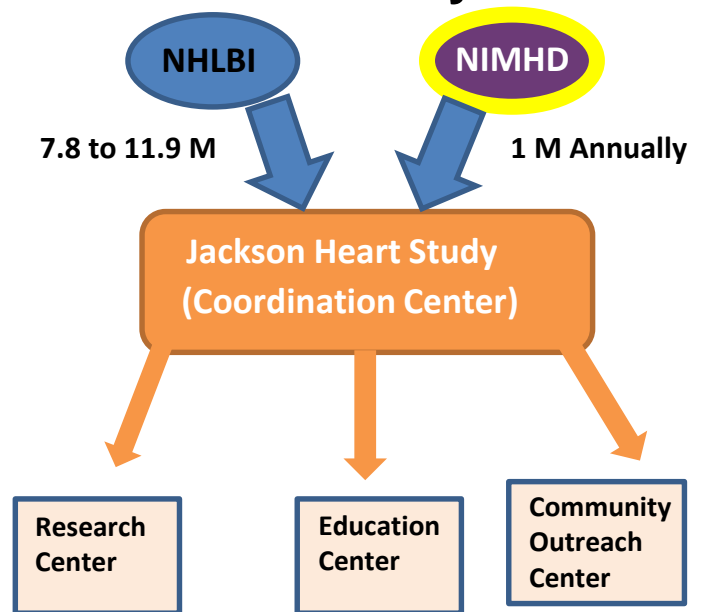
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# Jackson Heart Study

- Longitudinal, community-based study investigating the reasons for the greater prevalence of cardiovascular disease among African Americans and to uncover new approaches for reducing this health disparity
- Enrolled cohort of 5,301 African Americans from 3-county Jackson, MS metro area
- Study Centers:
  - Coordination Center
  - Research Center
  - Education Center
  - Community Outreach Center
- Study supported by NHLBI and NIMHD and renewed for FY 2018–2024



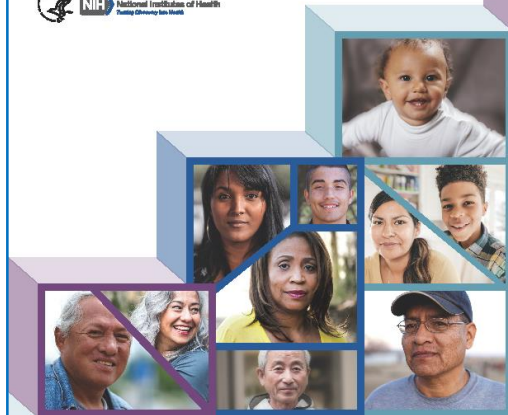
# NIH Minority Health and Health Disparities Strategic Planning Process

## Congressional Mandate

Section 101 of P.L. 106-525, NIMHD is tasked with guiding formation of a trans-NIH minority health and health disparities strategic plan

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Minority Health and  
Health Disparities  
Strategic Plan 2019–2023

Taking the Next Steps



2012

- Two NIH Working Groups
- Two Townhall Meetings

2015

- Trans-NIH Portfolio Analysis
- Minority Health and Health Disparities Definitions

2016

- NIMHD Visioning
  - ✓ Measurement (April)
  - ✓ Etiology & Intervention (May)

2017

- NIH Directors Meeting Presentation
- NIH-Wide Minority Health and Health Disparities Strategic Plan working group

2018

- Community Listening Sessions

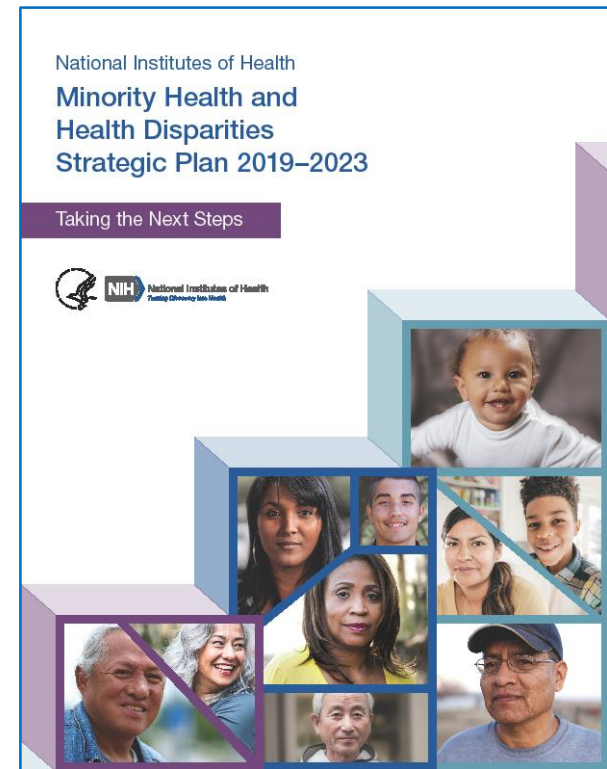
2019

- NIH/HHS Clearance Process



# Overview of the NIH-Wide Minority Health and Health Disparities Strategic Plan

- **3 Categories**
  - **9 Goals**
    - **31 Strategies**
      - **Action Priority Areas from ICs**
        - **Starting Line**
        - **Building Momentum**
- **Leaps Forward**



# Strategic Plan Categories and Goals

## ► Scientific Research

- ❑ Goal 1: Minority Health Improved
- ❑ Goal 2: Etiology of Health Disparities
- ❑ Goal 3: Interventions to Reduce Health Disparities
- ❑ Goal 4: Measures and Metrics

## ► Research-Sustaining

- ❑ Goal 5: Workforce Diversity and Training
- ❑ Goal 6: Capacity Building
- ❑ Goal 7: Inclusion of Minorities in Clinical Studies

## ► Outreach, Collaboration and Dissemination

- ❑ Goal 8: Community Engagement, Dissemination and Implementation
- ❑ Goal 9: Research Community Building



# Promote research to understand and to improve the health of racial/ethnic minority populations

- Examine health determinants that underlie **resilience or susceptibility** to diseases and conditions experienced by racial/ethnic minority populations (goal 2)
- Develop and assess interventions to improve the health status of minority populations (goal 3)
- Promote and evaluate the **impact of upstream preventive interventions** on distal health disparity outcomes across the lifespan and across generations (goal 3)



# Research-Sustaining Activity Goals and Strategies

- Support training to enhance the **diversity** of the biomedical workforce and to promote training of minority health and health disparities researchers (goal 5)
- Strengthen the national **capacity** of institutions to conduct minority health and health disparities research (goal 6)
- Assure appropriate representation of minority populations in NIH-funded research: **inclusion** (goal 7)



# Outreach, Collaboration and Dissemination

- Design and test **community-based** prevention and disease self-management interventions that target health determinants within the context of specific populations to influence health disparity outcomes (goal 8)
- Embed **implementation science within intervention** studies to inform efforts to scale, sustain, and translate efficacious interventions within and across populations and settings (goal 8)



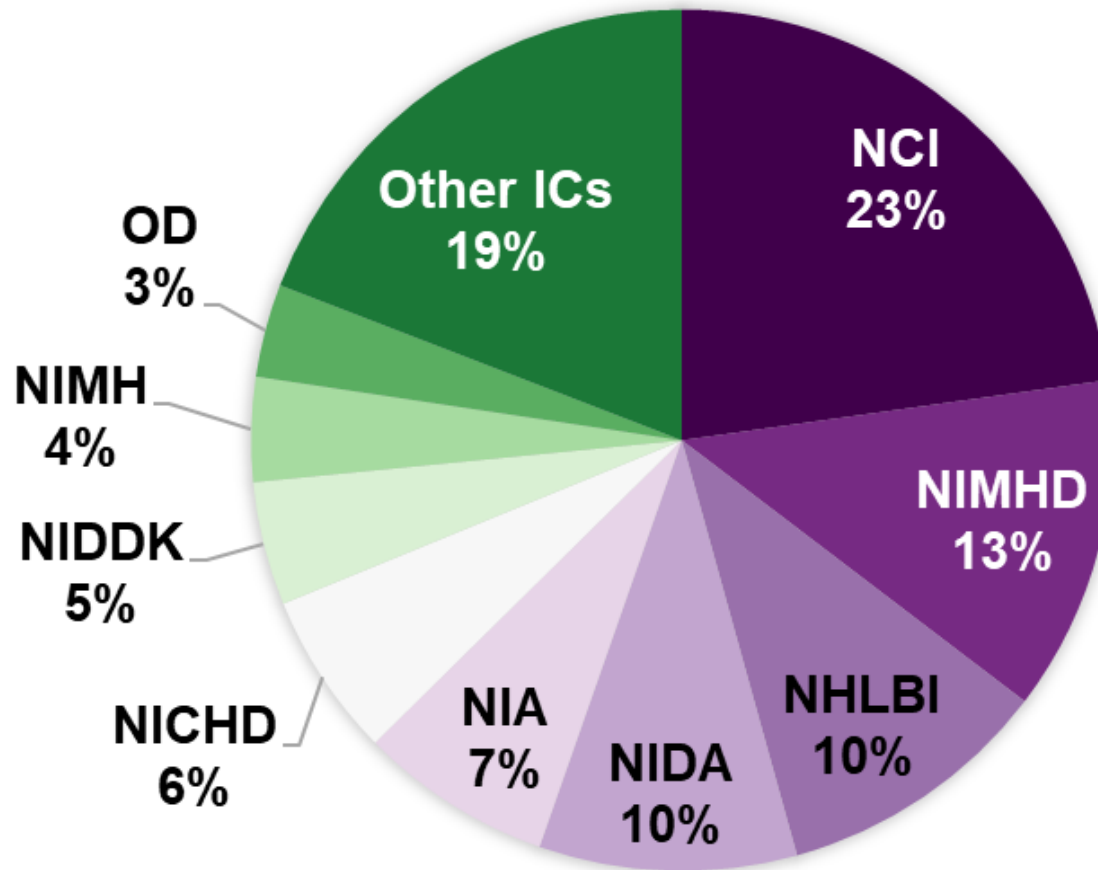
# Action Priority Areas for Each Strategy

- ❖ **Starting Line:**
  - **Concrete and current Minority Health and Health Disparities efforts (intramural and extramural)**
  - **Minority Health and Health Disparities initiatives underway at NIH or with NIH partners**
- ❖ **Building Momentum:**
  - **Minority Health and Health Disparities Concepts in development**
  - **Potential initiatives for advancing the sciences of Minority Health and Health Disparities**
- ❖ **Leaps Forward:**
  - **Visionary ideas with bold actions to dramatically advance the sciences of Minority Health and Health Disparities, improve Minority Health and reduce Health Disparities**

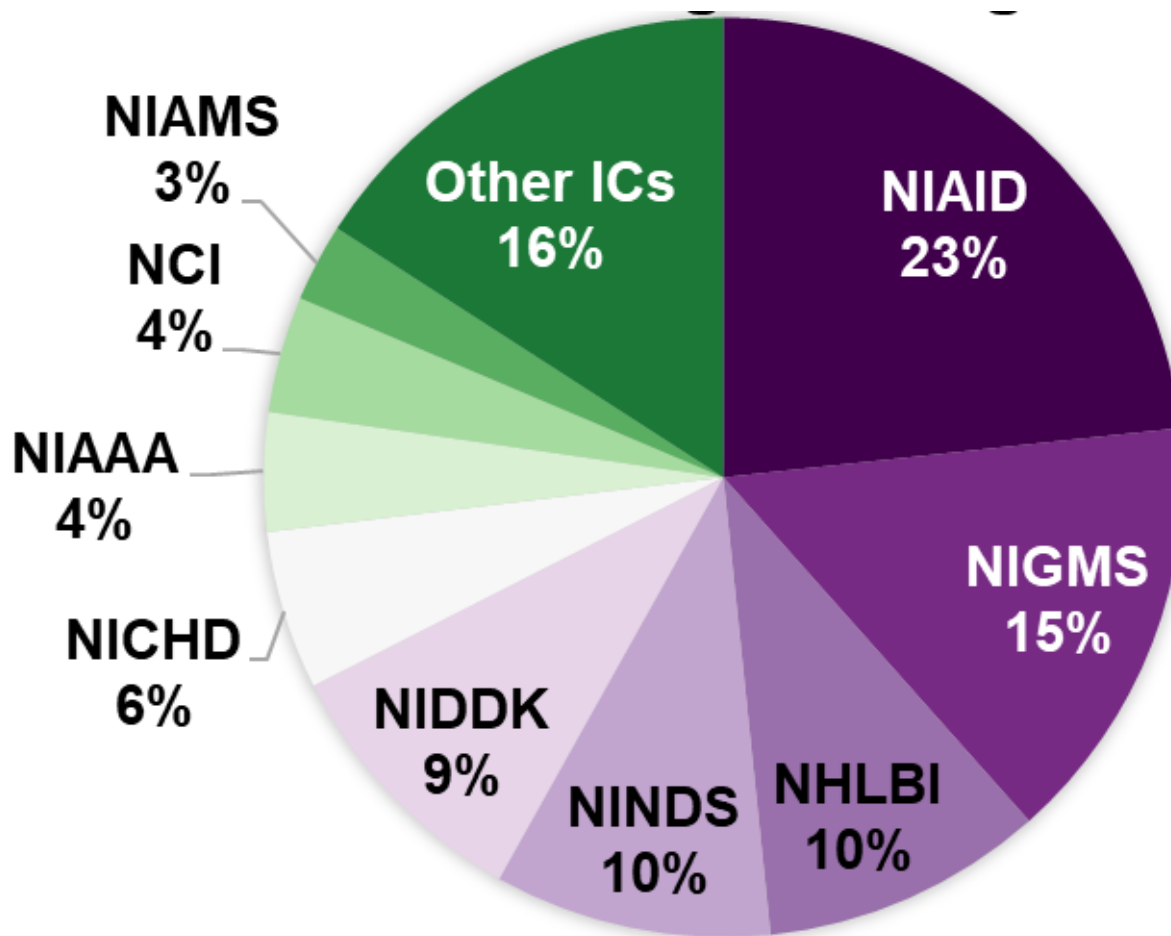




# Percent of FY18 NIH MH/HD Research Funding



# Percent of FY18 MH/HD Research Sustaining Funding



# Future Directions for NIMHD

- **Advance the science of minority health and health disparities by building cadre of scientists**
- **Incorporate race, ethnicity, SES and social determinants of health perspectives in all research with humans**
- **Leverage capacity building of RCMI and Endowment programs to create synergy with other ICs**
- **Establish world-class Intramural Research program in minority health and health disparities**
- **Implement and Monitor the NIH-Wide Strategic Plan 2019–2023**



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